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JUL 1812

(Glass and Stone,
Plane Surfaces)-

BRITISH 1812

Name Simpson

Date July 16, 1812

Number 3,581

A.D. 1812 July 16. No. 3581.
SIMPSON'S Specification.
1 Sheet.

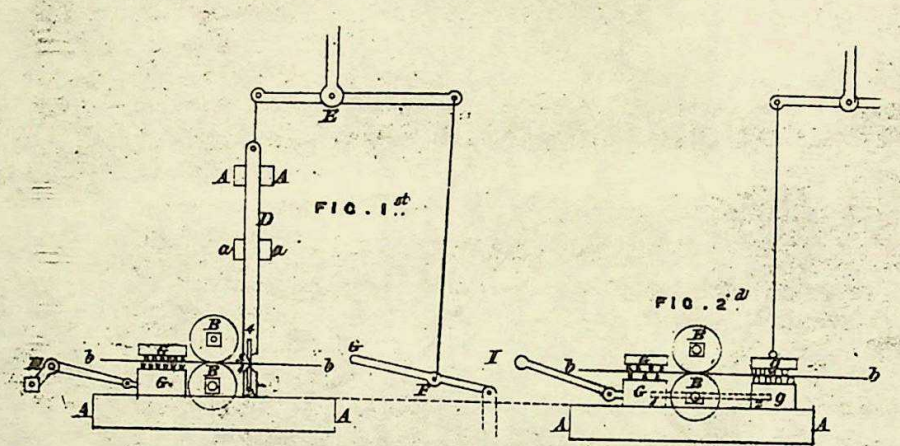


FIG 3rd

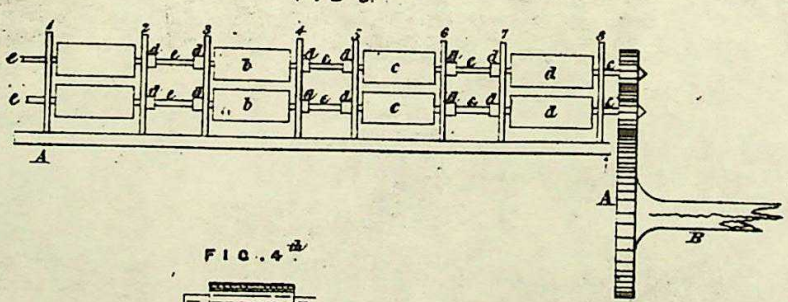
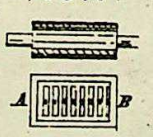


FIG. 4th



Frame about 18 by 26 Inches

Plane Surface.

D. Scraping & polishing whale-bone

G. & P

A. M. & L.

A.D. 1812 . . . . . N° 3581.

Preparation of Whalebone.

SIMPSON'S SPECIFICATION.

TO ALL TO WHOM THESE PRESENTS SHALL COME, I, JOHN SIMPSON, of the Parish of Sutton, in the County of York, Merchant, send greeting.

WHEREAS His present Majesty King George the Third, in and by His Letters Patent under the Great Seal of the United Kingdom of Great Britain and Ireland, bearing date at Westminster, the Sixteenth day of July last, for Himself, His heirs and successors, did give and grant unto me, the said John Simpson, His especial licence, full power, sole privilege and authority, that I, the said John Simpson, my exors, admors, and assigns, and every of them, by myself and themselves, or by my or their deputy or deputies, servants or agents, or such others as I, the said John Simpson, my exors, admors, or assigns, should at any time agree with, and no others, from time to time and at all times thereafter during the term of years therein expressed, should and lawfully might make, use, exercise, and vend, within England, Wales, and the Town of Berwick-upon-Tweed, my Invention of "**A METHOD OF CLEANSING, GUMMING, AND SCOWERING WHALEBONE**," found out and invented by me, the said John Simpson; in which said Letters Patent there is contained a proviso obliging me, the said John Simpson, by an instrument in writing under my hand and seal, particularly to describe and ascertain the nature of my said Invention, and in what manner the same is to be performed, and cause the same to be enrolled in His Majesty's High Court of Chancery within two calendar months next and immediately after the date of the said

recited Letters Patent, as in and by the same, reference being thereunto had, will more fully appear.

NOW KNOW YE, that in compliance with the said proviso, I, the said John Simpson, do hereby describe and ascertain the nature of my said Invention, and in what manner the same is to be performed, by the Plans or Drawings in the margin of these Presents, and the following description thereof, that is to say:—

After the blades of the whalebone have been separated from each other, and partly freed from the gum and hair, in the usual manner, they are put into a cistern or other proper vessel containing water, where they are left to steep from six to twelve hours, and are then taken out and passed through the first set of cleansers herein-after described, by the action of which they are scraped, brushed, and cleansed from slime, gum, and other matter, observing that sawdust is strewed on them as they pass through the machine, to prevent the grease and dirt from clogging up the scrapers and brushes. After this they are passed through a second, and, if necessary, a third pair or set of cleansers or polishers, when, as they pass through, they are by the action of the machine brushed with brushes fixed to a frame in one side of the machine, and rubbed with flannel or other proper materials fixed on the other side of the machine, by which means the bone is cleaned and polished; it is then warehoused, being fit for manufacturing into any of the various articles of trade for which it may be found useful. The great advantage to be obtained by my Invention is, that by it as much whalebone may be cleaned, with only the assistance of two boys of twelve or fourteen years of age, as can be done in the common way by thirty men, one boy putting the bone into the machine on one side, and the other boy taking it out on the other, so that two boys are necessary to each set of cleaners, viz^{t}, one for each side. I have only mentioned or alluded to the method of using two or three sets of cleaners; but as many may be used as circumstances may require. I at present use four sets, and they are driven by a steam engine of twelve horses' power, which I use for carrying on the other branches of my business. They may also be drove by any other power, as wind, water, or horses. I use sawdust in the operation of cleansing bone; and though I have yet only fixed scrapers, brushes, and flannels to the machines, yet I claim the privilege of fixing and using any other materials that may be found preferable; and I claim the merits of my Invention for the method of doing by machinery what was before done by hand; and I also claim the privilege of altering the size, shape, and materials of my machinery as circumstances may require, adhering to the principle herein-before mentioned.

Figure the First represents a vertical section of the first set of cleansers, and

is as follows :—A, A, is the base or frame of the machinery, secured to the ground floor. B, B, a pair of cast-iron rollers, eight inches diameter and twenty-seven inches long, making twenty revolutions per minute, and secured by their frame to the base A, A. C is a fixed block, containing the proper number of steel cutters or scrapers 1, with the springs 2. D is a vertical piece of timber moving in the guides *a*, *a*, *a*, *a*, and suspended at the top to the lever E. The piece D contains in its bottom end a number of steel cutters or scrapers 3, and springs 4, and is moved upwards to admit the bone to be passed to the rollers by the first boy putting his foot on the end G of the lever F, as seen in Figure First. The piece D is sufficiently weighted, and all the cutters or scrapers are made very narrow, that they may the more readily apply themselves to the different curves and thickness of the different sizes of the whalebone. G, G, is a frame, the lower part of which contains a number of narrow brushes or flannels, as seen in the Figure fixed thereon, and the upper part of the frame also contains a simular number of simular brushes or flannels, which may be curved or otherwise, as occasion requires. The upper and lower part of the frame G, G, is secured together by iron work, and each part contains a number of springs acting on the brushes or flannels. The frame G, G, is moved horizontally backward and forward in the base A, A, by a crank H, of two inches and a half, which crank makes one hundred and sixty-four revolutions per minute. The operation is as follows :—The first boy takes a blade of bone, and setting his foot on G, raises the piece D, with its row of cutters or scrapers, and placing the bone between the rollers lets fall instantly the piece D, the rollers drawing the bone through the scrapers, and at the same time carrying it through the brushes or flannels on the other side, which brushes or flannels are at the same time moving by means of the crank before mentioned, backward and forward, five inches every revolution of the crank, or eight hundred and twenty-inches per minute. The bone is then taken from the side H of the machine by the second boy, and passed by him to the boy who attends the second set of cleansers, and so until finished. *b*, *b*, represents a section of a blade of bone passing through the machine in the direction from I to H, where it is taken out.

Figure the Second is a section of the second pair or set of cleansers, and only differs from the first in having two frames G, G, and *g*, *g*, one on each side of the rollers, instead of having only one frame on one side and a set of scrapers on the other. Both frames G, G, and *g*, *g*, are secured to each other by iron work, 1, 2, and are driven by the crank, as in Figure the First. The upper part of the frame *g*, *g*, is lifted up to admit the entrance of the bone in a simular manner to the piece D, Figure the First.

Figure the Third shews the manner in which four sets of cleansers (the number I work at present) are placed, being a section of the rollers lengthways, with their axis *e*, *e*, *e*, and couplings *d*, *d*, *d*. The frames containing the scrapers and brushers are omitted in this Figure, and the spectator is supposed to stand at I, in Figure First. *a*, *a*, *b*, *b*, *c*, *c*, *d*, *d*, are four pair of rollers before mentioned, and are driven by the spur wheel A, fixed to the tumbling shaft B of the steam engine. The shaft B and wheel A also drive the crank shaft situated behind the rollers, and therefore not seen in this Figure. This shaft contains as many cranks as there are sets of cleansers. 1 to 8 are sections of the frames in which the rollers work, and are firmly fixed to the base A, A.

Figure the Fourth is a plan of the lower part of one of the frames and roller where the flannels or brushes are fixed, and consists of a number of narrow pieces of wood ////////// covered with flannel, or they constitute so many narrow brushes //////, and are all moveable on a rod at one end, A, B, and are pressed upwards by a strong spring. The upper part of the frame is made in the same manner. A lower and upper part connected is what I term one frame. The sawdust, which is from wood, is strewed on the bone as it passes through the machine. I also make use of cylindric scrapers, cutters, brushes, and flannels, or scrapers, brushes, and flannels made or formed into cylinders, which cylinders I work by any of the well-known means or methods of working such machinery, and which I also claim as a part of my Invention.

In witness whereof, I have hereunto set my hand and seal, this Tenth day of September, One thousand eight hundred and twelve.

JN° SIMPSON. (L.S.)

AND BE IT REMEMBERED, that on the Tenth day of September, in the year of our Lord 1812, the aforesaid John Simpson came before our said Lord the King in His Chancery, and acknowledged the Specification aforesaid, and all and every thing therein contained and specified, in form above written. And also the Indenture aforesaid was stampt according to the tenor of the Statutes made for that purpose.

Inrolled the Fourteenth day of September, in the year of our Lord One thousand eight hundred and twelve.

FROST, Extra.

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